Maryland Historical Trust

Maryland Inventory of Historic Properties number: B-4626

Name: LOCH RAVEN BLVD. OVER CHINQUAPIN RUN

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

Criteria: ___A ___B ___C ___D Considerations: ___A ___B ___C ___D ___E ___F ___G ___None

Comments: _____

_____

_____

Reviewer, OPS: Anne E. Bruder Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES **MHT No.** B-4626
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. BC 3403-1&2 **Bridge name** Loch Raven Boulevard over Chinquapin Run

LOCATION:
Street/Road name and number [facility carried] Loch Raven Boulevard

City/town Baltimore **Vicinity** _____

County Baltimore

This bridge projects over: Road____ **Railway**_____ **Water** X **Land** ____

Ownership: State _____ **County** _____ **Municipal** X **Other** _____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ **No** X
National Register-listed district ____ **National Register-determined-eligible district** __
Locally-designated district _____ **Other** _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ **Truss -Covered** ___ **Trestle** ___ **Timber-And-Concrete** ___

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge ____:
Swing _____ **Bascule Single Leaf** __ **Bascule Multiple Leaf** _____
Vertical Lift _____ **Retractile**_____ **Pontoon** _____

Metal Girder_____:
Rolled Girder _____ **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete X:
Concrete Arch X **Concrete Slab**_____ **Concrete Beam** ___ **Rigid Frame** _____

Other _____ **Type Name** _____

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DESCRIPTION:

Setting: Urban ____X____ **Small town** _____ **Rural** _____

Describe Setting:

Bridges BC 3403-1 & 2 carry Loch Raven Boulevard (northbound and southbound) over Chinquapin Run in Baltimore City. Loch Raven Boulevard runs north-south, while Chinquapin Run flows northwest to southeast. The bridge is located in the Chinquapin Run Park in the City of Baltimore.

Describe Superstructure and Substructure:

Bridges BC 3403-1 & 2 are 3-span, 2-lane, concrete open rib arch bridges constructed in 1932. The bridges were reconstructed in 1977 with a deck replacement and traffic barrier improvement. The bridges are each 61.6 meters (202 feet) long and have clear roadway widths of 7.3 meters (24 feet); there is one sidewalk measuring 1.7 meters (5.7 feet) wide on each bridge. The out-to-out width of each bridge is 10 meters (32.8 feet). The superstructures consist of three open rib arches which support a concrete deck, jersey barriers and a metal railing. The approach arches of each bridge span 20 meters (65 feet) while the central arches span 22 meters (73 feet). The structures have concrete jersey barrier parapets. The jersey barriers on the sidewalk side of the bridges are located between the roadway and sidewalk and act as a traffic barrier. A metal pedestrian railing is located on the outside edge of the sidewalk. The substructure of each bridge consists of two concrete abutments, two concrete piers and four concrete wingwalls. The bridges have a sufficiency rating of 64.8.

According to the 1995 inspection report, these structures were in satisfactory condition with cracking and spalling. The deck, asphalt wearing surface and parapets have transverse and longitudinal cracks. The columns and arches have spalls and cracks. The abutments have cracking with efflorescence, while the piers have delaminated concrete with exposed reinforcement.

Discuss Major Alterations:

According to the 1995 Bridge Inspection Reports, the bridges were constructed in 1932 and reconstructed in 1977. The reconstruction involved the replacement of the decks and addition of concrete jersey barrier parapets.

HISTORY:

WHEN was the bridge built: 1932
This date is: Actual ____X____ **Estimated** _____
Source of date: Plaque _____ **Design plans** _____ **City/County bridge files/inspection form** X
Other (specify): _____

WHY was the bridge built?

The bridges were constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

Unknown

WHO was the builder?

Unknown

WHY was the bridge altered?

The bridges were altered to correct functional or structural deficiencies.

Was this bridge built as part of an organized bridge-building campaign?

Unknown

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character ____X____

The bridges are eligible for the National Register of Historic Places under Criterion A and C, as a significant example of concrete arch construction. The structures have a high degree of integrity and retains such character-defining elements of the type as the arch ribs, spandrel columns and arch, abutments, piers and wingwalls.

Was the bridge constructed in response to significant events in Maryland or local history?

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic , with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the

State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland during this period. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetic as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of these bridges have had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

The bridges are located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

The bridges are a potentially significant example of a concrete arch bridge, possessing distinctive ornamentation and design.

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Does the bridge retain integrity of important elements described in Context Addendum?

The bridges were reconstructed in 1977, resulting in the loss of the original parapets, a character-defining element of a concrete arch bridge. The parapets were replaced with concrete jersey barriers. However, the arch ribs, spandrel columns and arches, abutments, wingwalls, and piers are still intact.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

These bridges are not significant examples of the work of a manufacturer, designer, and/or engineer.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of these bridges is required to evaluate their significance.

BIBLIOGRAPHY:

City/County inspection/bridge files X **SHA inspection/bridge files** _____
Other (list): _____

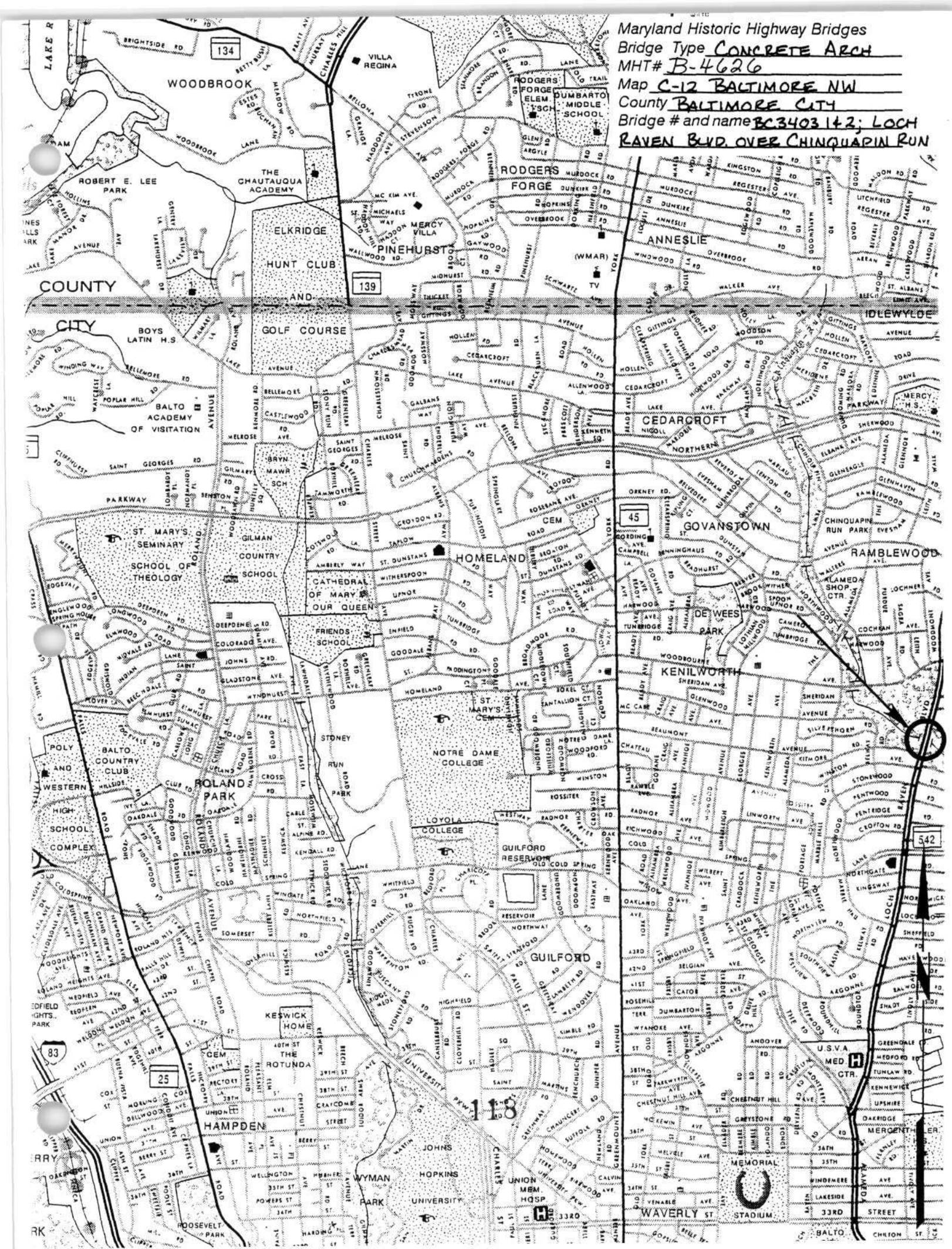
Johnson, Arthur Newhall
1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland*. Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

P.A.C. Spero & Company and Louis Berger & Associates
1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

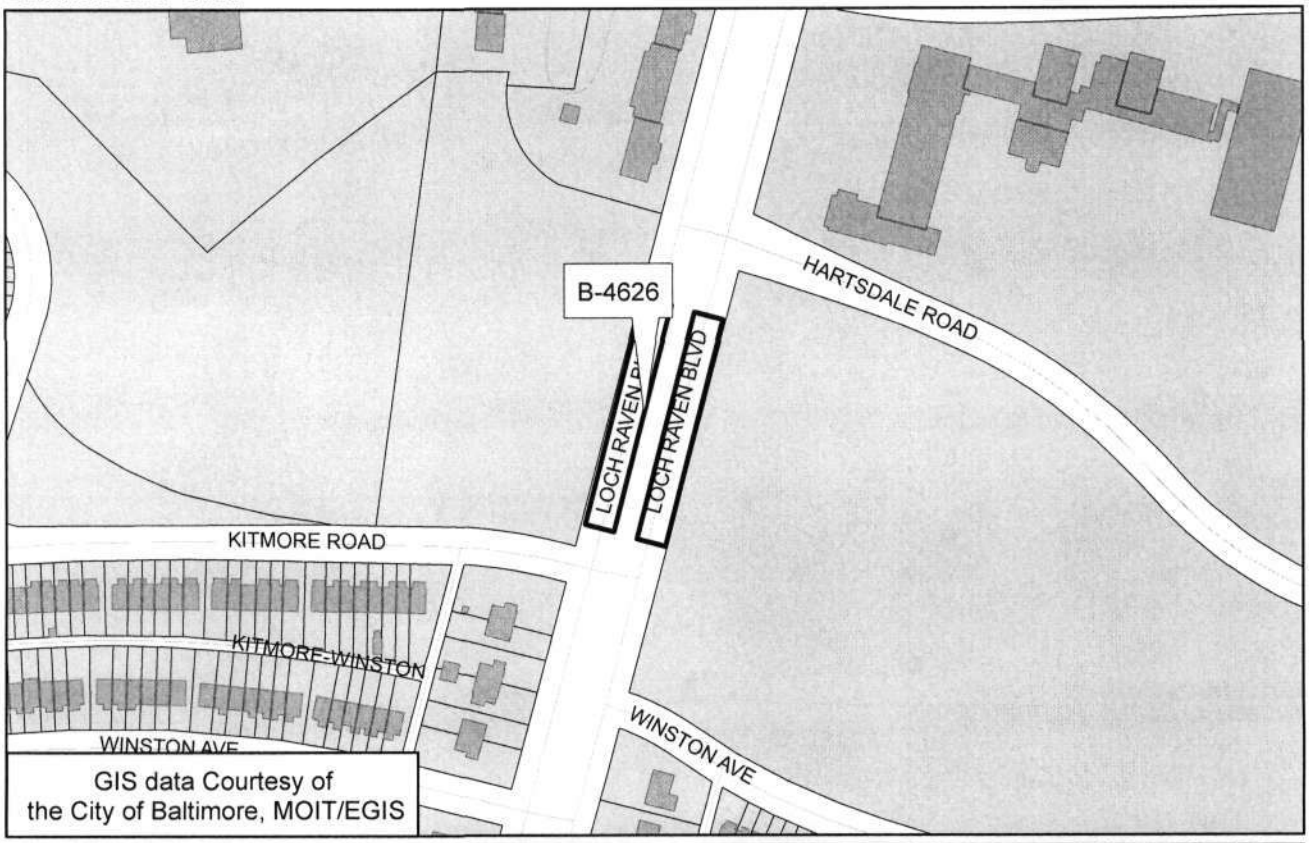
Tyrrell, H. Grattan
1909 *Concrete Bridges and Culverts for Both Railroads and Highways*. The Myron C. Clark Publishing Company, Chicago and New York.

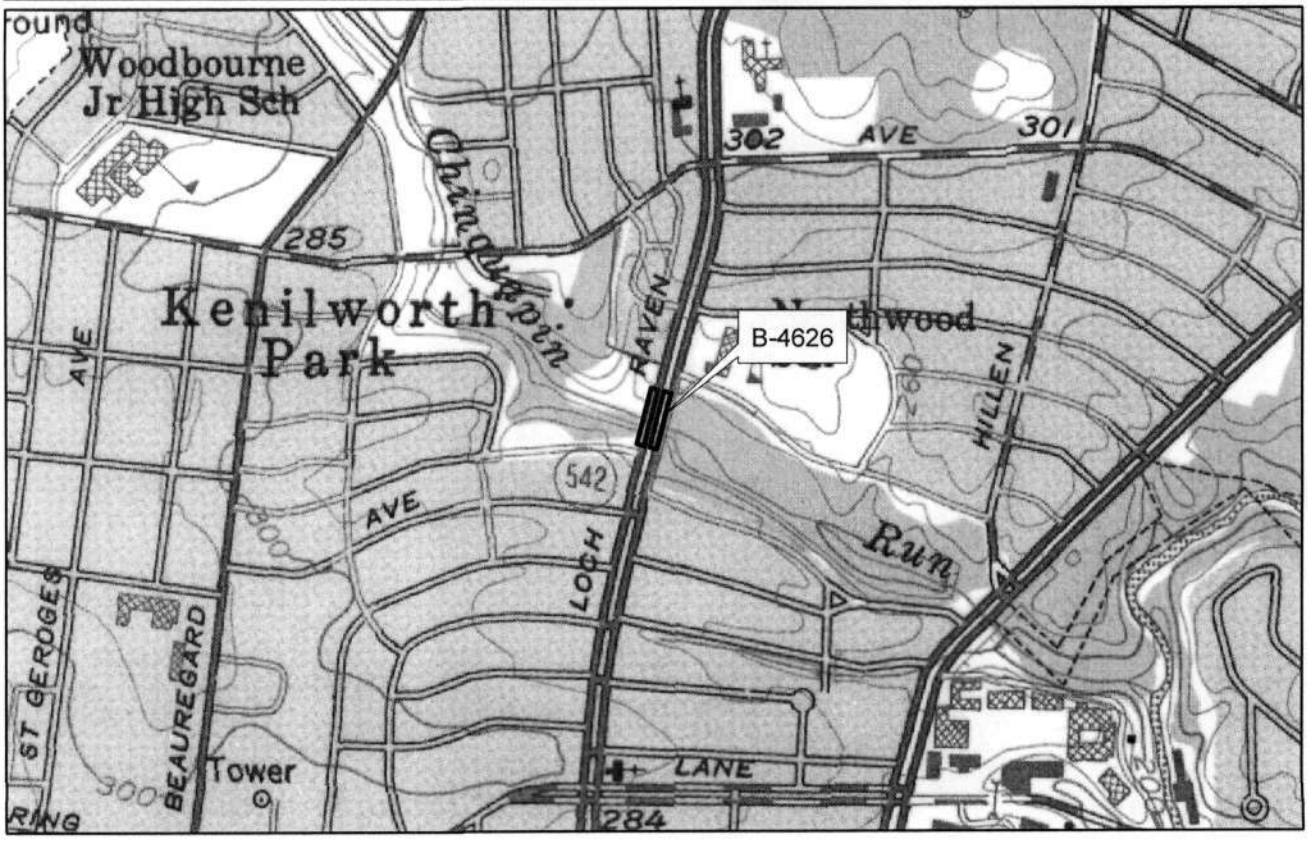
SURVEYOR:

Date bridge recorded December 1997
Name of surveyor Wallace, Montgomery & Associates / P.A.C. Spero & Company
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1635 **FAX number** (410) 296-1670


Maryland Historic Highway Bridges
Bridge Type CONCRETE ARCH
MHT# B-4626
Map C-12 BALTIMORE NW
County BALTIMORE CITY
Bridge # and name BC3403142; LOCH RAVEN BLVD. OVER CHINQUAPIN RUN
WOODBROOK
VILLA REGINA
RODGERS FORGE ELEM SCH
DUMBARTON MIDDLE SCHOOL
ROBERT E. LEE PARK
THE CHAUTAUQUA ACADEMY
RODGERS FORGE
ELKRIDGE
HUNT CLUB
MERCY VILLA
PINEHURST
ANNESLIE
(WMAR) TV
COUNTY
AND
CITY
IDLEWYLDE
BOYS LATIN H.S
GOLF COURSE
BALTO ACADEMY OF VISITATION
CEDARCROFT
MERCY H.S.
BRYN MAWR SCH
ST. MARY'S SEMINARY SCHOOL OF THEOLOGY
GILMAN COUNTRY SCHOOL
HOMELAND
GOVANSTOWN
CHINQUAPIN RUN PARK
RAMBLEWOOD
CATHEDRAL OF MARY OUR QUEEN
ALAMEDA SHOP CTR.
DE WEES PARK
FRIENDS SCHOOL
KENILWORTH
ST. MARY'S CEM
NOTRE DAME COLLEGE
STONEY RUN PARK
POLY
BALTO COUNTRY CLUB
WESTERN HIGH SCHOOL COMPLEX
ROLAND PARK
LOYOLA COLLEGE
GUILFORD RESERVOIR
GUILFORD
KESWICK HOME
THE ROTUNDA
U.S.V.A. MED CTR.
HAMPDEN
JOHNS HOPKINS UNIVERSITY
WYMAN PARK
UNION MEM HOSP
MEMORIAL STADIUM
WAVERLY ST
33RD STREET
ROOSEVELT PARK
118
83
25
45
542

B-4626
Bridge 3403-1 & 3403-2
Loch Raven Boulevard over Chinquapin Run
Baltimore City
Baltimore East Quad





Inventory # B-4626

Name 3403-2 LOCH RAVEN BLVD OVER CHINQUAPIN RUN

County/State BALTIMORE CITY / MD

Name of Photographer TIM SCHOEN

Date 1/95

Location of Negative SHA

Description NORTH APPROACH

Num 1 OF 6


SNOW ROUTE
DURING
SNOW EMERGENCY
CARS TOWED AWAY

Inventory # B-4626

Name 3403-2 LOCH RAVEN BLVD OVER CHINQUAPIN RUN
County/State BALTIMORE CITY/MD
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description SOUTH APPROACH

Num 2 OF 6

Inventory # B-4626

Name 3403-1 LOCH RAVEN BLVD OVER CHINQUAPIN RUN
County/State BALTIMORE CITY / MD
Name of Photographer TIM SCHDEN
Date 1/95

Location of Negative SHA

Description EAST ELEVATION

Number 3 OF 6

Inventory # B-4626

Name 3403-1 WCH RAVEN BLVD OVER CHINQUAPIN RUN

County/State BALTIMORE CITY/MD

Name of Photographer TIM SCHOEN

Date 1/95

Location of Negative SHA

Description SOUTH APPROACH

Num 4 OF 6

Inventory # B-4626

Name 3403-2 LOCH RAVEN BLVD OVER CHINQUAPIN RUN
County/State BALTIMORE CITY/MD
Name of Photographer JIM SCHOEN
Date 1/95

Location of Negative SHA

Description EAST ELEVATION

Numl 5 OF 6

Inventory # B-4626

Name 3403-2 LOCH RAVEN BLVD OVER CHINQUAPIN RUN
County/State BALTIMORE CITY/MD
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description WEST ELEVATION

Num 6 OF 6